UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,329	11/04/2003	Raghunath Padiyath	59346US002	4935

32692 7590 06/19/2007
3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER	
HOANG, QUOC DINH	

ART UNIT	PAPER NUMBER
2818	

NOTIFICATION DATE	DELIVERY MODE
06/19/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
LegalDocketing@mmm.com

Office Action Summary	Application No.	Applicant(s)	
	10/701,329	PADIYATH ET AL	
	Examiner	Art Unit	
	Quoc D. Hoang	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 11-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 11-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/22/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendment filed on 03/22/2007 has been entered. Claims 9, 10, 25, 30 have been canceled. Claims 1-8, 11-24, 26-29, and 31-36 are pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 13-18, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Roitman et al (US Pat No. 6,137,221 hereinafter "Roitman").

Regarding claim 1, Roitman teaches a method of making an organic light-emitting device comprising:

advancing a web comprising a flexible substrate (161) in a direction (col. 4, lines 1-65 and Fig. 2);

applying a first electrode layer (117) (col. 4, lines 1-65 and Fig. 2);

applying a light-emitting layer (118) (col. 4, lines 1-65 and Fig. 2); and

applying a second electrode layer (131) electrically isolated from the first electrode layer wherein the first and second electrode layers are continuous in the direction of the advancing web (col. 4, lines 1-65 and Fig. 2).

Regarding claim 2, Roitman teaches wherein the first electrode layer is the anode and the second electrode layer is the cathode (col. 4, lines 1-65 and Fig. 2).

Regarding claim 3, Roitman teaches wherein the first electrode layer is the cathode and the second electrode layer is the anode (col. 4, lines 1-65 and Fig. 2).

Regarding claim 4, Roitman teaches wherein the first electrode layer is continuous in a direction perpendicular to the direction of the advancing web 1 (col. 4, lines 1-65 and Fig. 2).

Regarding claim 13, Roitman teaches wherein the electrode layers are applied by means of a method selected from sputtering, vapor deposition, laser thermal patterning, ink jet printing, screen printing, thermal head printing, and photolithographic patterning (col. 1, lines 10-15).

Regarding claim 14, Roitman teaches wherein the method is a batch process (col. 4, lines 53-65 and Fig. 2).

Regarding claim 15, Roitman teaches wherein the method is a continuous process (col. 4, lines 53-65 and Fig. 2).

Regarding claim 16, Roitman teaches wherein the substrate comprises a pair of substantially parallel peripheral edges and the continuous electrode layer 1extends to the peripheral edges of the substrate (col. 5, lines 1-8 and Fig. 2).

Regarding claim 17, Roitman teaches providing at least one organic charge transport layer between the light-emitting layer and at least one of the electrode layers (col. 4, lines 15-20).

Regarding claim 18, Roitman teaches wherein the light-emitting layer is selected from the group comprising small molecule emitter, a small molecule doped

polymer, a light-emitting polymer, a doped light-emitting polymer, a blended light-emitting polymer, and combinations thereof (col. 2, lines 48-50).

Regarding claim 23, Roitman teaches wherein the substrate is transparent (col. 4 lines 10-15).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5-8,11-12 and 19-22, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Roitman et al (US Pat No. 6,137,221 hereinafter "Roitman") in view of Weaver (US Pat No. 6,664,730).

Regarding claim 5, Roitman teaches the first electrode layer (117), but do not teach applying an insulating layer on a portion of the first electrode layer.

However, Weaver teaches applying an insulating layer (430) on a portion of the first electrode layer (420) (col. 8, lines 35-40 and Fig. 4). Since Roitman and Weaver are all from the same field of endeavor, the purpose disclosed by Weaver would have been recognized in the pertinent art of Roitman. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply the insulating layer on a portion of the first electrode layer in order to electrically reliably insulates first electrode from bus lines as taught by Weaver, column 8, lines 40-42.

Regarding claims 6 and 7, Roitman does not reach teaches applying an insulating layer on a portion of the substrate.

However, Weaver teaches applying an insulating layer (200) on a portion of the substrate 210, and removing the insulating layer after applying the first electrode (420) (col. 7, lines 15-50 and Fig. 2). Since Roitman and Weaver are all from the same field of endeavor, the purpose disclosed by Weaver would have been recognized in the pertinent art of Roitman. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply the insulating layer on a portion of the first electrode layer in order to form patterned electrode as taught by Weaver, column 7, lines 15-20.

Regarding claim 8, Roitman teaches the first electrode layer, but do not teach wherein the first electrode layer is applied in a first pattern comprising at least two stripes substantially parallel to the direction of the advancing web.

However, Weaver teaches wherein the first electrode layer (420) is applied in a first pattern comprising at least two stripes substantially parallel to the direction of the advancing web (col. 11, lines 1-10 and Fig. 5). Since Roitman and Weaver are all from the same field of endeavor, the purpose disclosed by Weaver would have been recognized in the pertinent art of Roitman. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply the first electrode layer in a first pattern comprising two stripes in order to individually control by thin film transistor embedded in the substrate as taught by Weaver, column 11, lines 5-10.

Regarding claims 11 and 12, Roitman teaches wherein the electrodes (117 131) are formed by masking techniques (col. 4, lines 25-30).

Regarding claim 19, Roitman teaches web (161), but do not teach cutting a portion from the web forming an organic light-emitting device having a dimension in the direction of the advancing and an area.

However, Weaver teaches cutting a portion from the flexible substrate forming an organic light-emitting device having a dimension in the direction of the advancing and an area (col. 11, line 18 through col. 12, line 65 and Figs. 4-5). Since Roitman and Weaver are all from the same field of endeavor, the purpose disclosed by Weaver would have been recognized in the pertinent art of Roitman. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to cut a portion from the flexible substrate in order to obtain organic light-emitting devices as taught by Weaver, column 12, lines 48-65.

Regarding claim 20 and 21, Weaver teaches wherein the electrode layer is continuous beyond the dimension of the device prior to cutting (see Figs. 4-5). Since Roitman and Weaver are all from the same field of endeavor, the purpose disclosed by Weaver would have been recognized in the pertinent art of Roitman. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to cut a portion from the flexible substrate in order to obtain organic light-emitting devices as taught by Weaver, column 12, lines 48-65.

Regarding claim 22, Weaver teaches wherein the dimension ranges up to about 17 inches (col. 12, lines 20-35). Although Weaver's dimension is not the claimed range

(10 inches), this does not define patentable over Weaver since the thickness is well known processing variable and the discovery of the optimum or workable range involves only routine skill in the art.

Response to Arguments

6. Applicant's arguments filed 03/22/2007 have been fully considered but they are not persuasive.

In response to applicant's argument that the Roitman et al does not show "the first and second electrode layers are continuous in the direction of the advancing web ". The examiner disagrees. Clearly in Fig. 2 the first and second electrode layers (117 131) are continuous in the direction of the advancing web (161). Noted that the second electrode refers only one electrode (131), which is continuous in the direction of the advancing web (horizontal direction).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc Hoang whose telephone number is (571) 272-1780. The examiner can normally be reached on Monday-Friday from 8.00 AM to 5.00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on (571) 272-1657. The fax phone numbers of the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Quoc Hoang
Patent examiner/AU 2818

06/10/2007

QUOC D. HOANG
PRIMARY PATENT EXAMINER